

In the Specification:

Please replace paragraph [1012] on page 3 of the specification (corresponding to paragraph [0014] of the published application) with the following replacement paragraph:

[1012] We have developed a new software-based technique for implementing multi-target atomic operations on an arbitrary number of non-contiguous memory locations using synchronization facilities available on many standard architectures. Such operations can be presented to the programmer in a variety of application programming interfaces (APIs), or simply employed (e.g., ad hoc) without definition of a standardized interface. The software may be encoded in a computer program product or computer readable storage medium, such as a disk, a tape or another magnetic, optical, or electronic storage medium. Since the APIs tend to provide a useful descriptive context for illustrating our techniques, the description that follows assumes an API, though without limitation. One alternative API takes the form of two atomic operations: an atomic n -target compare-and-swap (NCAS) operation and an atomic load operation. The NCAS operation takes a sequence of n addresses, a_1, \dots, a_n , a sequence of n old values, x_1, \dots, x_n , and a sequence of n new values, y_1, \dots, y_n . If the operation returns true, then for each i , $1 \leq i \leq n$, the value at location a_i is equal to x_i , and the value at a_i is set to y_i . If the operation returns false, then no memory location is changed, and the operation returns false. We say a transaction (or NCAS) succeeds if it returns true, and fails if it returns false. The load operation simply takes an address and returns the value at that address.